

CLAIMS

1. An implantable constriction device (2) for constricting penile blood vessels of a patient for treating impotence, **characterized** by an elongate composite structure 5 (4) adapted to constrict the exit penile veins or corpus cavernosa of the patient to restrict the penile venous blood flow, wherein said elongate composite structure is composed of a base material (12,32,34,44,50,52,60) making said composite structure self-supporting and property improving means 10 (14,20,40,46,54,70) for improving at least one physical property of said composite structure other than self-supporting properties.

2. An implantable constriction device according to claim 15 1, wherein the property improving means comprises a coating on the base material at least along a side of the elongate composite structure that is intended to contact the exit penile veins, the coating having better aggressive body fluid resistant properties than the base material.

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3. An implantable constriction device according to claim 2, wherein the base material forms an inflatable tubing.

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4. An implantable constriction device according to claim 3, wherein the tubing has an inner surface defining the interior of the tubing, and the coating covers the inner surface.

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5. An implantable constriction device according to claim 1, wherein the property improving means comprises a coating on the base material at least along a side of the elongate composite structure that is intended to contact the exit penile veins, the coating having better anti-friction properties than the base material.

6. An implantable constriction device according to claim 2 or 5, wherein the property improving means further comprises a core of a viscoelastic material covered with the self-supporting base material.

7. An implantable constriction device according to claim 5, wherein the base material forms an inflatable tubing.

10 8. An implantable constriction device according to claim 7, wherein the tubing has an inner surface defining the interior of the tubing, and the coating covers the inner surface.

15 9. An implantable constriction device according to claim 1, wherein the base material forms a first layer and the property improving means comprises a second layer applied on the first layer, the second layer being more fatigue resistant than the first layer.

20 10. An implantable constriction device according to claim 9, wherein the second layer covers the first layer of the base material along a side of the elongate composite structure that is intended to contact the exit penile veins.

25 11. An implantable constriction device according to claim 9 or 10, wherein the second layer comprises a polyurethane layer.

30 12. An implantable constriction device according to any one of claims 9-11, wherein the property improving means comprises a coating coated on the first layer and/or the second layer, the coating having better aggressive body fluid resistance properties and/or better anti-friction properties

than the base material.

13. An implantable constriction device according to claim 12, wherein the coating is selected from the group 5 consisting of Teflon™, Parylene™, and biocompatible metal coating.

14. An implantable constriction device according to claim 13, wherein the biocompatible metal coating is selected 10 from the group consisting of gold, silver and titanium.

15. An implantable constriction device according to any one of claims 9, wherein the first layer of the base material forms an inflatable tubing, and the second layer covers the 15 base material within the tubing.

16. An implantable constriction device according to claim 1, wherein the base material forms an inflatable tubing and the property improving means comprises a liquid 20 impermeable coating coated on the base material.

17. An implantable constriction device according to claim 16, wherein the tubing has an external surface of the base material and an internal surface of the base material defining the interior of the tubing, the coating being coated 25 on the external surface and/or internal surface.

18. An implantable constriction device according to claim 16 or 17, wherein the coating is selected from the group 30 consisting of Parylene™ and a biocompatible metal coating.

19. An implantable constriction device according to claim 18, wherein the biocompatible metal coating is selected from the group consisting of gold, silver and titanium.

20. An implantable constriction device according to any one of claims 1-19, wherein hard silicone constitutes the base material.

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21. An implantable constriction device according to any one of claims 3,7 and 16, wherein the base material forms two coaxial tubular layers and the property improving means comprises a tubular intermediate layer of a viscoelastic material located between the coaxial tubular layers.

22. An implantable constriction device according to any one of claims 3,7 and 16, wherein the base material forms an outer tubular layer and an inner arcuate layer attached to the outer tubular layer, the outer and inner layers defining a curved space extending longitudinally along the tubing, and the property improving means comprises viscoelastic material filling the space.

20 23. An implantable constriction device according to any one of claims 6,21 and 22, wherein the viscoelastic material is selected from the group consisting of silicone gel, cellulose gel, and collagen gel.

25 24. An implantable constriction device according to claim 1, wherein the property improving means comprises gas contained in a multiplicity of cavities formed in the base material to improve the flexibility of the composite structure.

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25. An implantable constriction device according to claim 24, wherein the cavities are defined by net structures of the base material.

26. An implantable constriction device according to claim 24 or 25, wherein Teflon™ constitutes the base material.

27. An implantable constriction device according to any 5 one of claims 24-26, wherein the composite structure forms an inflatable tubing.

28. An implantable constriction device for constricting penile blood vessels of a patient for treating impotence, the 10 constriction device comprising an elongate composite structure adapted to constrict the exit penile veins or corpus cavernosa of the patient to restrict the penile venous blood flow, wherein the composite structure includes an elongate biocompatible self-supporting base material having surfaces 15 exposed to aggressive body cells, when the constriction device is implanted in the patient, and a cell barrier coating coated on said surfaces to prevent body cells from breaking down the base material.

20 29. An implantable constriction device according to claim 28, wherein the barrier coating is selected from the group consisting of Parylene™ and a biocompatible metal coating.

30. An implantable constriction device according to 25 claim 29, wherein the biocompatible metal coating is selected from the group consisting of gold, silver and titanium.